

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
20 September 2001 (20.09.2001)

PCT

(10) International Publication Number
WO 01/69887 A3

(51) International Patent Classification⁷: **H04L 29/06**,
29/12

(21) International Application Number: PCT/US01/08533

(22) International Filing Date: 16 March 2001 (16.03.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/190,358 16 March 2000 (16.03.2000) US
09/728,253 1 December 2000 (01.12.2000) US

(71) Applicant: **SRI INTERNATIONAL** [US/US]: 333
Ravenswood Avenue, Menlo Park, CA 94025-3493 (US).

(72) Inventor: **TEMPLIN, Fred, Lampert**; 291 La Cuesta
Drive, Portola Valley, CA 94028 (US).

(74) Agent: **RODRIGUEZ, Michael, A.**; Testa, Hurwitz
& Thibault, LLP, High Street Tower, 125 High Street,
Boston, MA 02110 (DE).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,
CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM,
HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK,
LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX,
MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL,
TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.

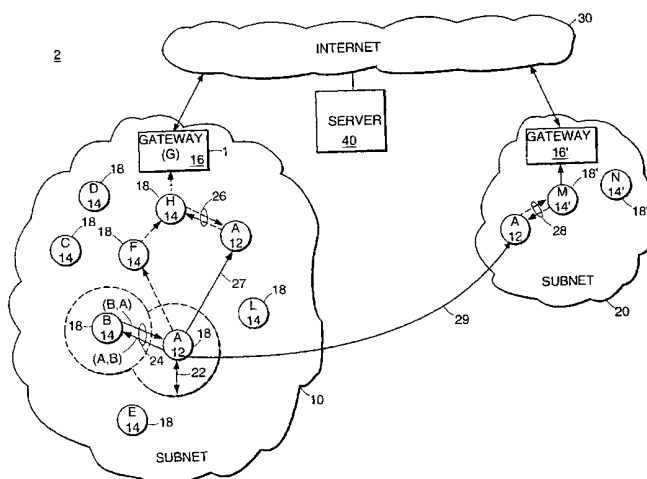
(84) Designated States (*regional*): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian
patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European
patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE,
IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF,
CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:
— with international search report

(88) Date of publication of the international search report:
23 May 2002

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: AN IPv6-IPv4 COMPATIBILITY AGGREGATABLE GLOBAL UNICAST ADDRESS FORMAT FOR INCREMENTAL DEPLOYMENT OF IPv6 NODES WITHIN IPv4 NETWORKS



(57) Abstract: Described is an IPv6-IPv4 compatibility global aggregatable unicast address format that enables incremental deployment of IPv6 hosts and routers within predominantly IPv4 based networks. A globally aggregatable IPv6 address prefix is associated with an IPv4 node having an IPv4 address and deployed in the network. The IPv4 node is configured with an IPv6-IPv4 compatibility address that includes a prefix portion and an interface identifier portion. The prefix portion contains the IPv6 address prefix associated with the IPv4 node and the interface identifier portion contains the IPv4 address. Packets addressed to the IPv6-IPv4 compatibility address of the IPv4 node are routed across IPv6 infrastructure using the IPv6 prefix portion or tunneled across IPv4 infrastructure using the IPv4 address embedded in the interface identifier portion.



WO 01/69887 A3

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 01/08533

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H04L29/06 H04L29/12

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H04L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, INSPEC, COMPENDEX, IBM-TDB

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	TSIRTISIS G ET AL: "Network Address Translation - Protocol Translation (NAT-PT)" REQUEST FOR COMMENTS: 2766 , February 2000 (2000-02), XP002167711 abstract paragraph '0001! - paragraph '05.2! paragraph '07.1! - paragraph '0008! --- -/--	1-8



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *G* document member of the same patent family

Date of the actual completion of the international search

15 January 2002

Date of mailing of the international search report

25/01/2002

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Lievens, K

INTERNATIONAL SEARCH REPORT

Int. lional Application No

PCT/US 01/08533

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	R. E. GILLIGAN, E. NORDMARK: "Transition Mechanisms for IPv6 Hosts and Routers" INTERNET-DRAFT, 'Online! - 13 March 1999 (1999-03-13) pages 1-24, XP002187310 Retrieved from the Internet: <URL:http://www.ietf.org/proceedings/99jul/I-D/draft-ietf-ngtrans-mech-04.txt> 'retrieved on 2002-01-14! cited in the application abstract paragraph '0001! - paragraph '01.1! paragraph '0003! - paragraph '03.1! paragraph '03.7! - paragraph '05.4! ---	1-8
A	R. HINDEN, M. O'DELL, S. DEERING: "An IPv6 Aggregatable Global Unicast Address Format" REQUEST FOR COMMENTS: 2374 , 'Online! July 1998 (1998-07), pages 1-8, XP002187311 Retrieved from the Internet: <URL:http://www.faqs.org/rfcs/rfc2374.html> 'retrieved on 2002-01-14! cited in the application paragraph '01.0! - paragraph '03.1! paragraph '03.6! ---	1-8
X	F. TEMPLIN: " An IPv6-IPv4 Compatibility Aggregatable Global Unicast Address Format" INTERNET DRAFT, 'Online! March 2000 (2000-03), pages 1-12, XP002187347 Retrieved from the Internet: <URL:http://alternic.net/drafts/drafts-t-u/draft-templin-ngtrans-v6v4compat-00.txt> 'retrieved on 2002-01-15! the whole document ---	1-8
P, X	FRED L. TEMPLIN: "An IPv6-IPv4 Compatibility Aggregatable Global Unicast Address Format for Incremental Deployment of IPv6 Nodes Within Predominantly IPv4-based Intranets" INTERNET-DRAFT , 'Online! 22 September 2000 (2000-09-22), pages 1-14, XP002187312 Retrieved from the Internet: <URL:http://www.join.uni-muenster.de/drafts/draft-templin-ngtrans-v6v4compat-01.txt> 'retrieved on 2002-01-14! the whole document -----	1-8